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BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE  
WASHINGTON 25, D. C.

In Cooperation with State, Federal and other Agencies

COTTON INSECT CONDITIONS - MAY 27, 1947  
(First Cotton Insect Survey Report for 1947)

The Cotton Insect Survey will be continued in 1947. This first report on cotton insect conditions is based chiefly on information received from field laboratories of the Bureau of Entomology and Plant Quarantine.

The cotton crop generally is from two to three weeks late due to unfavorable weather, which has also retarded weevil emergence. While no weevil damage has been reported thus far, cotton growers should prepare to fight them in 1947 in areas where they have been serious in past years. Enough boll weevils survived in many areas to cause serious losses to the crop unless they are controlled by hot, dry weather or by insecticides.

Boll weevils are less numerous in Mississippi, Louisiana and Texas now than they have been during May for several years, but in Florence County, South Carolina, hibernating boll weevils were more numerous in surface woods trash than in any recent years, except 1939 and 1943. The apparent light carry-over of weevils in many areas is due to several factors, such as early frost last fall and early destruction of cotton stalks in some sections in the late summer and early fall of 1946, which stopped weevil development; and unusually low temperatures during the winter, which killed many of the weevils in hibernation.

Cotton leafworms have not as yet been reported. They often reach southern Texas during April and May.

Supplies of arsenical insecticides now in storage are reported as much lower than usual.

BOLL WEEVIL

SOUTH CAROLINA: At Florence the spring examination of surface woods trash adjacent to last year's cotton fields showed an average of 2904 live boll weevils per acre. The average number of weevils found per acre by these examinations during the latter part of March for the past ten years was as follows:

Year	Number of Boll Weevils per Acre	Year	Number of Boll Weevils per Acre
1938	1472	1943	2995
1939	3582	1944	1210
1940	176	1945	2580
1941	1960	1946	2193
1942	1839	1947	2904

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These figures indicate that more boll weevils survived the winter under the leaves in the surface woods trash in Florence County to emerge and infest this year's cotton crop than in any of the previous nine years, except 1939 and 1943.

Many boll weevils have been caught this spring on a screen trap located in an early-planted cotton plot near Florence. A total of 49 weevils were caught on the screen in 7 days from April 24 to May 2, and 32 weevils were caught in the 5-day period from May 5 to May 9. Five boll weevils were collected on the young cotton plants in this plot on May 2, and between May 5 and May 9 nine additional weevils were taken from the young cotton in the trap plot.

During 1946, 1944, 1943, and 1942 no weevils were caught on the screen trap or collected in the trap plot of young cotton before May 10. However, in 1945 more boll weevils had been taken from the screen trap and from the trap planting of cotton by May 10 than were taken this year.

Information to date indicates that sufficient weevils are present in the vicinity of Florence to cause serious injury to the cotton crop unless they are controlled by hot, dry weather or by insecticides.

MISSISSIPPI: In Washington County in the Delta section of the State, boll weevils were found in only one of the 30 cotton fields examined during the week ending May 23. At this date in 1946 weevils had been found in 4 of the 16 fields examined in Washington County. In 1945 no boll weevils had been found at this date, but in 1944, 11 of the 36 fields examined had boll weevils at rates ranging from 50 to 250 weevils per acre.

LOUISIANA: At Tallulah, Madison Parish, in northeastern Louisiana boll weevil emergence in hibernation cages during the first half of May indicates that a much smaller percentage of weevils survived the winter and are emerging this spring than was the case in the six years 1946, 1945, 1941, 1937, 1934, and 1932, but a higher percentage is emerging in the cages than during May of any of the other nine years since 1932, as shown in the following table:

Boll Weevil Emergence in Hibernation Cages from May 1 to 15, inclusive			
: Survival		: Survival	
Year	: Percent	Year	: Percent
1947	.50	1939	.48
1946	3.86	1938	.42
1945	4.38	1937	3.74
1944	.46	1936	0
1943	.34	1935	.28
1942	.02	1934	1.74
1941	4.56	1933	.14
1940	0	1932	1.20



The surface trash examinations last fall indicated that fewer boll weevils went into hibernation in Madison Parish than during the four previous years; but the spring examinations indicate a higher percentage survived than in any of the past four springs, except 1945. The surface trash examinations indicate that the weevils are about as numerous as they were in May, 1946; less numerous than in May, 1943, or 1945, but more numerous than in May, 1944.

The surface trash records for the past five years at Tallulah give the number of boll weevils per acre of surface trash and the percent survival in the early spring and about May 1, as follows:

	Fall	: Early Spring	:	About May 1
	Number of	: Number of	: Percent	: Number of
	Weevils	: Weevils	: Survival	: Weevils
				Survival
1946-47	3,582	1,162	32	678
1945-46	9,583	1,742	18	678
1944-45	5,421	3,338	62	1,065
1943-44	5,372	1,258	23	339
1942-43	7,308	1,791	25	1,111
				15

TEXAS: In general the cotton crop is later than normal in most areas of the State due to unfavorable weather conditions and little weevil activity has been noted to date. In the lower Rio Grande Valley where all cotton plants were destroyed in August to check the pink bollworm last year, the boll weevils were also greatly reduced. From the examination of 58 fields in Cameron and Hidalgo Counties during the week ending May 19, only 21 fields were found infested with boll weevils, and in only 2 fields (both in Hidalgo County) were more than 10 percent of the squares punctured. No weevils were found in 3 fields examined in Kleberg County in the Coastal Bend area. Near Waco, in McLennan County, plant examinations were made in 16 unthinned fields and weevils were found in four fields at an average rate of about one weevil per 500 plants.

In hibernation cages at Waco only three weevils emerged prior to May 16. The percentage of emergence as compared to previous years and total seasonal survival in 7 previous years follows:

Year:	Seasonal Survival as of May 16;	Total seasonal survival, percent
1947	0.06	
1946	0.90	1.32
1945	2.04	3.42
1944	1.44	2.78
1943	0.15	0.23
1942	0.69	0.72
1941	10.36	21.32
1940	0.10	0.20

Records to date indicate that the initial weevil infestation will be below average in all cotton-growing areas of the State.

### COTTON FLEA HOPPER

TEXAS: During the week ending May 19, a total of 160 fields in 10 counties were examined for cotton flea hoppers, including 3 counties in the lower Rio Grande Valley, 6 counties in the Coastal areas, and McLennan County in central Texas. In 47 fields no fleahoppers were found; in 88 of the fields there were less than 10 flea hoppers per 100 terminal buds; in 23 fields from 10 to 25 flea hoppers were found, and in only 2 fields, both in Willacy County, were there more than 25 flea hoppers per 100 terminal buds.

### MISCELLANEOUS INSECTS

Pale-striped Flea Beetle: In Lee County, South Carolina, the pale-striped flea beetle, Systema blanda Melsh., was reported on May 14 to be causing serious damage to young cotton. The outbreak was reported to the Coker Pedigreed Seed Company, Hartsville, S. C., and was investigated by Dr. Rogers of that Company, and C. F. Rainwater of this Bureau. In a small field of  $2\frac{1}{2}$  acres all of the cotton plants were destroyed. The owner reported the cotton was up to a perfect stand and had reached the chopping stage when the injury was noticed. Mr. Rainwater reported: "The cotton looked as though boiling water had been poured over it from one end of the row to the other and there were literally tens of thousands of these beetles present. In addition to the  $2\frac{1}{2}$  acre field which was already 100 percent destroyed, this farmer had 28 acres in 3 nearby fields which were from 50 to 95 percent destroyed and the ravage was continuing." Calcium arsenate is recommended for the control of these beetles on cotton. A 3% DDT mixture has satisfactorily controlled the pale-striped flea beetle on potatoes and other crops.

A. J. Chapman of the Brownsville, Texas laboratory reported on April 30: "A few fields were noted in which the bollworm and the barber pole worm had caused some shedding of young squares and terminal bud damage. Webworms (species unknown) were found defoliating cotton in one field in Mexico. Spotted infestations of cutworms, red spiders, and aphids have also caused minor damage in a few fields. Light infestations of flea hoppers were reported in some fields the past week."

The Cowpea Aphid: Aphids collected on cotton on Layne Farms near Waco, McLennan County, Texas, on May 12, 1947, were identified by Dr. P. W. Mason as the cowpea aphid, Aphis medicaginis Koch. The cowpea aphid is one of the aphids that occasionally become sufficiently abundant on cotton to cause considerable damage.

### INSECTS ON IRRIGATED COTTON OF THE SOUTHWEST

Weekly surveys made in the Salt River and Santa Cruz Valleys of Arizona and in the El Paso Valley of Texas show that the Lygus bugs and other plant bugs that attack cotton are more numerous now than they were a year ago. Beet armyworms were found in damaging numbers on seedling cotton in a number of fields in the Santa Cruz Valley south of Tucson. Several growers are using tractor-drawn ground dusters and applying mixtures containing 5% DDT and sulfur to their seedling cotton with good results.

Considerable airplane dusting and spraying with benzene hexachloride has been done in the Salt River Valley, near Buckeye, for control of grasshoppers in cotton and seed alfalfa fields. Satisfactory results have been reported.

May ~~27~~, 1947



